**Basona Worena Fourth Strategic Innovation Platform (IP) Meeting Report, June 2016**

***Temesgen Alene and Shimelis Mengistu***

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| Produced by | International Livestock Research Institute |
| Published by | International Livestock Research Institute |
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[www.africa-rising.net](http://www.africa-rising.net)

The Africa Research in Sustainable Intensification for the Next Generation (Africa RISING) program comprises three research-for-development projects supported by the United States Agency for International Development as part of the U.S. government’s Feed the Future (FtF) initiative.

Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three projects are led by the International Livestock Research Institute (in the Ethiopian Highlands) and the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa). The International Food Policy Research Institute leads an associated project on monitoring, evaluation, and impact assessment.

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**Introduction**

[Africa RISING in Ethiopian highlands](http://africa-rising.net/where-we-work/ethiopian-highlands/) is a research for development project that focus on **s**ystem interventions in the crop-and-livestock mixed farming system in four big regions (Amhara, Oromia, Tigray and SNNPR). The project understands the need for engaging various research and development partners in addressing system interventions. For this the project established and support innovation platforms at field sites for cooperation and co-learning**.** The platforms are supported to facilitate meaningful and effective interactions that prioritize, guide, and evaluate the various research and development processes specific to the sites. The platforms started helping connect farmers to profitable and efficient value chains for the main commodities. The members of the platforms are contributing in designing, implementing, evaluating project activities and disseminate and communicate research findings though regular meetings and farmers field days.

**Innovation platforms and farmer research groups**

Innovation platforms (IPs) have been formed at all the research sites. The platforms aim to nurture linkages among farming communities, the Africa RISING research teams and other public and private actors working in the areas. They work at three levels:

1. At Woreda (district) level, strategic IPs support Kebele platforms and farmer research groups. They bring together stakeholders to support wider adoption of innovations.
2. At Kebele level, operational platforms oversee local research activities, foster integration among the farmer research groups, and promote alignment of local on-farm research with district priorities.
3. Farmer research groups are like innovation clusters. They involve all farmers who are active around specific clusters of research activities – such as forage production, water delivery or varietal improvement. The roles of these groups are expected to expand to promote scaling of innovation to wider groups of farmers.

Regular IP meetings are held at strategic and operational level for sharing and communicating research findings. This report is therefore aimed to share and document the key outcomes of the fourth IP meeting.

Basona Worena Woreda 4th Strategic IP meeting

**Venue**: Hiwot hotel meeting hall, Debre Birhan Town

**Facilitator** – Temesgen Alene (ILRI) and Abiro Tigabie (DBARC)

**Minute takers**: Shimelis Mengistu (ILRI) and Temesgen Alene (ILRI)

**The main objectives of the meeting was:-**

* To share the outputs/results of action oriented research activities of the project (2013 to June 2016)
* To discuss local partner’s role on scaling promising Africa RISING selected technologies

**Introductions**

The meeting was started by introducing the agendas of the day by Temesgen Alene (Africa RISING Site coordinator) that Africa RISING had been operating in Basona Worena Woreda starting from 2012 doing different diagnostic studies and action oriented research activities. To facilitate these initiatives Woreda and Kebele Innovation Platforms were established and being operational as a means of learning and knowledge sharing trough out the project life. Thus, the main aim of the fourth IP meeting is to share R4D activities of the project and result highlights with their challenges to our stalk holders. Temesgen also mentioned that we will have discuss on the role of local partners on scaling promising technologies.

Awgchew Teshome (Head of North Shewa Zone office of Agriculture) in his opening speech reminded participants Africa RISING was operating in the Woreda focusing on on-farm research activities. He also said that the results obtained from few farmers plot has to be scaled to more number of farmers. The extension has to do based on the result of model farmers according to Awgchew view. Finally, he reminded that each partner/stalk holder has to play significant role take to scaling best practice/selected technologies to the wider community.

1. **Presentations, Questions, Suggions, comments and response by Africa RISING site team**

After the opening speech Temesgen Alene (Site coordinator) presented “Basona Worena Site Africa RISING Project R4D activities, result highlights and challenges”. His presentation covers the following:-

* Action oriented research activities implemented at Basona Worena site from 2013 to June 2016
* Results from participatory variety selection (PVS) trials
* Result of mechanized seeding of wheat
* Community seed multiplication activities
* Progresses of CIAT and ICRISAT yield gap research progress
* Progress of raised bed trial by CIMMYT
* Progress of integrated faba bean gall management trial by ICARDA
* Capacity building activities especially during 2014 and 2015
* ICT materials and budget support to key local partners
* Challenges

The second presentation way by Shimelis Mengistu (Assistant site coordinator) with a title of “Progress and Challenges on Animal feed, tree lucerne and Highland Fruit Research Protocols”. Shimelis briefly summarize the

following issues:-

* Result highlights of rain fed/irrigated fodder production research
* Findings from integrating tree lucerne in the crop-livestock farming systems
* Progress of management and utilization of crop residues research protocol
* Result highlight of highland fruit (Apple) research protocol and
* Progresses from the joint watershed initiative by Woreda extension and Africa RISING project

**Questions, suggestions and comments for the two presentations**

**Tadios** **Demesew** (Woreda Administration)

* I have the opportunity to see solar pump technology used by farmers which was introduced by IMWI during watershed experience sharing visit to Lemo Woreda, SNNP. Tadios suggested to test solar pump at Basona Worena site.
* Farmers around Chacha area were using oat crop for food rather than for animal feed purpose. There is an information that oat has negative side effect on human health. I heard that production of oat was band due to this side effect. So how does the project handle this issue to push mixed fodder production?
* The seed of tree lucerne can be used as feed for poultry and it can contribute for yellow color of egg yolk. But yet the seed of tree lucerne is observed wasted in the field. I recommend research intervention to use tree lucerne seed as part of poultry ration and collection of seed need to be given attention to avoid wastage.
* Potato don’t expand at Goshe Bado Kebele even if farmers like the technology one of the reason by farmer was due to porcupine. Tadios suggested to use the experience of Lemo farmers in which they dug the whole boundary of their farm plot to protect porcupine damage.

**Abiro Tigabie** (Debre Birhan Agricultural Research Center)

* Mechanized wheat seeding at Goshe Bado resulted grain yield advantage of 26.8 q/ha and straw yield increment of 37.6 q/ha compared to manual seeding. Abiro said the data seems exaggerated and he recommended to check the data? But he said if the data is correct the technology has to be included in the technology package of the Woreda to scale it using the fund from AGP?
* The recommendations from CIAT and ICRISAT yield-gap trials didn’t reach to the farming community up to know? He said this question is the question of the IP forwarded to the lead researchers?
* Abiro asked there was no MSc and PhD student support (as capacity building by Africa RISING) particularly to Basona Worena local partners?
* It was good if the production of tree lucerne was linked with animal feeding experiment at farmers’ level to avoid the biasedness of farmers as cattle preference is less for tree lucerne and to recommend appropriate feeding system?
* He was happy with most of the selected crop technology were from Debre Birhan Agricultural Research Center (DBARC).
* The issue of porcupine at Goshe Bado Kebele has to be solved by the farming community and Kebele administration.
* Abiro commented that community seed multiplication activities have to be linked community level organizations (farmer’s seed cooperatives and union).

**Awgchew Teshome** (Head, North Shewa Zone office of Agriculture)

* All of the PVS and other trials done by Africa RISING project uses DAP as a source phosphorus. However, there is no DAP at the market and farmers are using NPS he said this will be a problem when we try to push the technologies with their full package to the farmers? Awgchew reminded that NPS and Boron were recommended and now being widely used in Amhara region. He commented most of the works related with fertilizer do not match with the current practices (i.e. the extension is pushing NPS while most of the trials were done with DAP).
* The productivity the varieties greatly varies at the two Kebeles what was the reason behind?
* He questioned why the project didn’t test threshing machine?
* Ridomil was used for integrated management of faba bean gall disease what was the reason to include better chemical than ridomil to get good result from the experiment?
* What was the possible reason for the low survival and growth rate of tree lucerne in our Woreda as compared to other project sites? What could be the possible solution for this?
* Apple growth was seemed to be poor in our site. This might be due to poor awareness of farmers and full packages (inputs and materials) might not be fulfilled? Farmers who fail to properly manage apple plant could be due to these gaps.

**Etsegenet H/Michael** (Debre Birhan University)

* Etsegenet appreciated that Africa RISING project operated in the area linked with research.
* Crop residue shades and feeding troughs are very good technologies. But the cost of materials especially those fabricated materials may not be affordable for most farmers. This may result on scaling up/out of the technology. Do we have done economic /profitability analysis on these technologies?
* What was the actual problem with the site and farmer selection?

**Beyene Bitew** (Center director, Debre Birhan Agricultural Research Center)

* Beyene reminded participants that Africa RISING project fill some gap but it is not intended to cover all the agricultural problems in the Woreda. He said that the project was doing a good job during the years of its operation in the area.
* On potato PVS trials Beyene want to see one/two varieties recommended per each Kebele?
* Beyene had seen the performance of oat-vetch mixture during the field day he asked that the vetch give seed which will be used for next season production?
* The performance of tree lucerne was poor as compared to other Africa RISING sites, he suggested to arrange exchange visit to farmers where there is good experience in managing tree lucerne with in Amhara region.

**Andualem Lulseged (**Wodera union)

* He suggested despite focusing on increasing production and productivity we have to consider market for the interventions.
* Andualem reminded participants that scaling of the selected technologies should be institutionalized.
* He also suggested that we have to find a means to make available the seeding machine which was tested by the project to farmers.

To save time the participants agreed with facilitator (Temesgen) to give reactions or answers only the questions. The suggestions and comments will be used as good input to be considered if we go for Africa RISING phase II or taken as an assignment by local partners.

**Response by Temesgen**

1. PVS trials

There was a productivity difference between the two Kebeles yes that is expected and it is because of soil and other climatic conditions which unique to the Kebeles on different seasonal and years. However, the best performing varieties were ranked the almost the same on the two Kebeles so it is logical to recommend for both of the two. For scaling purpose we can take this varieties to areas which have similar soil and climatic conditions like that of Goshe Bado and Gudo Beret. It is easy to pick only one or two varieties for each Kebele but we recommend/advised to use up to three varieties because of the issue of seed (under the current condition it is difficult to get seed of the selected variety so it is logical to put other options too).

1. Community seed multiplication activities

Temesgen accepted that the community seed multiplication were dispersed here and there, so in the future they have to be linked community level organizations (farmer’s seed cooperatives and union). He said it is a valid point which should be taken.

1. Fertilizer trials by CIAT and ICRISAT

With regards to the results of fertilizer trials he responded that we didn’t get final output from the lead researchers so we will forward the question researchers who executed the experiments. He told the participants as Abiro suggested it will forward to the lead researchers as the question of the IP?

1. Mechanized seeding of wheat

The yield and straw increment of machine seeding over the control/local is what we get on the ground and Temesgen said no question about the data. It is also possible to recheck it again with CIMMYT researcher (Dereje).

1. Farmers and site selection

This was a big issue especially on 2014 cropping season that we selected farmers on farmer’s interest group identification meeting. The farmers were selected based on their interest but when we go the actual field/site we found stony, waterlogged, small sized farm plots. Our solution was to replace with appropriate site and farmer. However, for the 2015 cropping season we checked the site/filed and farmer at the same time for each protocol ( i.e. we use site to farmer approach)

1. Integrated management of faba bean gall disease

Temesgen reminded participant during the 3rd IP meeting it was suggested that better chemical like Baylaton to include faba bean gall management trial. It was also decided to do the trial with some adjustment of the treatments in a small groups for this Beyene, Dr. Nigussie and Yetsedaw were assigned. However, I don’t know the exact reason why it was not possible to include it (May be because of availability of the chemical or the time was short between the meeting and planting time).

1. Capacity building (PhD and MSc student support)

The project had supported one PhD student from DBU (Hailu Terefe) which was a research grant on competitive basis. However, Temesgen acknowledged that the number of students given the opportunity and the expectation from the local partners doesn’t match.

1. Potato at Goshe Bado

He said that the issue of less expansion of potato at Goshe Bado Kebele could be solved by working together and showing farmers the benefits of the crop superior than that of its production constrains. It needs holistic approach and involvement of different stalk holders rather than a single organization or project.

**Response by Shimelis**

1. Tree lucerne

Response to tree lucerne seed:- As it has been said the seed of tree lucerne can be used as a component of poultry ration as it is a very good source of protein. When we talk about tree lucerne, it has many more functions. It is used for livestock feed as very good source of protein (leaves, edible branches, and pods/seeds), improve soil fertility, reduce erosion, used as bee forage, cash source, farm tools, shade, wind break, and fuel. So to benefit from all these functions, its production and proper utilization should come to practice.

Response to linking tree lucerne with feeding experiment (dairy): the objective of the tree lucerne research protocol was to determine survival rate, growth and biomass production as well as identifying suitable niches and quality seeds & seedling supply system. To link it with feeding experiment at farmer’s level, it may need another research title/agenda and at first there should be sufficient tree lucerne biomass at farmer’s level to conduct such trial. As we saw on the presentation, survival rate was poor and tree lucerne plants didn’t reach full maturity. If the project continue its second phase, the lead researchers probably may consider this type of research work.

Response for low survival and growth of tree lucerne:- for instance, in Lemo, there is developed culture to properly manage trees. Moreover free grazing is much better controlled as compared to our site. As we all know 100 thousands and millions of multipurpose seedlings were produced and distributed every year for planting on different land use systems. Most survival rate is limited until crop harvest. After crop harvest, survival rate and growth of such multipurpose plants got decreasing and total loss was being observed in some cases. On the presentation, we have seen total loss due to free grazing which is the major reason for most seedling losses. There is also poor tree management system/custom except eucalyptus in our site. In protected watersheds and fenced compounds (around home stead), survival rate and growth of tree lucerne were observed to be high unlike unprotected watershed and planting sites without fencing. All these shows uncontrolled free grazing is the main reason for the lowest survival and growth rate of tree lucerne in our site*.*

The possible solutions may include trainings (like that we did two times in both Kebeles) on tree lucerne functions, production and utilization options, strong monitoring system and following environment friendly livestock production system like fattening. Fattening in most cases is characterized by limited movement of animals. So that planted fodder materials can have time to well grow and produce more biomass which can be frequently harvested and used by cut and carry system. The challenge is that how the farmers can provide sufficient feed for the animal? One solution for this is farmers need to keep only selected types for their better productivity function. Animals with low production should be culled and get in to short time stall feeding to sale them at fair price. The extension need to work on linking farmers with feed processers (like Woreda union, Brewery factories, pulse processers) in the Woreda. All these issue need strong and continuous monitoring and follow up until adoption of best practices come to exist among farmers.

1. Mixed Fodder (rain fed/ irrigated)

The question related to oat was responded by Awgchew (Head – zone office of agriculture). He reacted to the above issue and he said that it is not production of oat is band it is the consumption of oat by farmers. So the solution for this is not stopping production of oat rather farmers need to be strongly advised not to use oat for food but for animal feed purpose.

1. Crop residue

As a result of population expansion and crop intensification increases, grazing lands are shrinking from time to time. So crop residues are becoming the major source of feed for livestock. But, the traditional storage and feeding system resulted for the loss of up to 50 % of crop residue based on different previous findings. These technologies once constructed can serve for long period of time and the farmers can also use local materials (especially roofing material) to minimize cost of construction. So these technologies are considered as very profitable even though we didn’t do economic analysis (which probably will be conducted during second phase if the project continued).

1. Highland fruit (Apple)

As part of Africa RISING project, farmers were given training and taken to model private apple farm to let them practically see apple production and management. It was after that those apply seedlings were distributed for participant farmers. Theoretical and field level practical training was also given after planting by showing them the growth status of the apple plant they took based on the data collected frequently from each participant farmers. This was also part of frequent Kebele level innovation platform meeting to initiate farmers to properly manage their apple plant. Some inputs like fertilizer was provided for farmers after orientation on its application. Chemical and pruning materials also provided for Kebeles to assist farmers on pruning and chemical application through Kebele experts. Africa RISING have done this much to support extension with research. The extension is expected to fill those observed gap that we saw as an outputs of the research findings during the presentation.

1. **Discussion on partner’s role in scaling promising technologies**

The discussion on the role of partners in scaling was facilitated by Abiro Tigabie (IP facilitator). He first reported what activities are being conducted by his organization and invited participants to reflect their role in scaling promising Africa RISING technologies.

**Abiro Tigabie** (Debre Birhan Agricultural Research Center)

Abiro Tigabie reported that Dosha faba bean variety was multiplied by farmers on 5 ha at mush village last year and 67 quintals good quality seed has been collected by the Mush cooperative. The center has a plan to scale Dosha variety on 18 ha of land at Gudo Beret Kebele (2016) and for this they have purchased 27 quintal of seed from the cooperative. In addition the center has a plan to scale Tsehay bread wheat at Gudo Beret Kebele and Bekoji malt barley variety at Angolela Kebele.

He said that they have a plan to introduce Gera and Gorebela potato varieties multiplied using tissue culture to replace the seed at the hands of the farmers. The center has started testing animal feed cultivars and has done participatory variety trials on durum wheat, field pea and lentil at different Woredas.

**Shewangizaw H/Michael** (Head, Basona Worena office of Agriculture)

He said that the IP was a good opportunity to work different experts which have different knowledge, experience and capacity. It also plays significant role in linking experts with farmers. The issue of knowledge with regards to farmers and experts is now getting a solution according to Shewangizaw. He promised to use the experiences of Africa RISING Woreda Innovation platform (IP) to strengthen Agriculture research development partner’s linkage advisory council (ARDPLAC) existing in the Woreda but not that much strong using fund from AGP.

Basona Worena office of agriculture scaled Tsehay and Menzie bread wheat varieties to 10 Kebeles of the Woreda last year and for 2016 cropping season the office had already purchased 20 quintals seeds of these two varieties to scale to other Kebeles. Shewangizaw reported that his office had already started organizing farmer’s seed cooperatives as an effort to institutionalize the seed system at different Kebeles of the Woreda.

**Etsegenet H/Michael** (Debre Birhan University)

The university was actively participating with Africa RISING project by using and sharing experts/knowledge on doing different diagnostic and on-farm research activities said Etsegenet. She also promised that the university will work in the future in scaling selected promising technologies tested by the project.

**Tatek G/Amanuel** (Vice head, Basona Worena Woreda Administration)

The main mission of the Woreda administration is to increase production and productivity. Tateke said that I have got the opportunity to see good works on crop, livestock and natural resource. The Woreda will work to scale promising technologies tested by Africa RISING project with the help of similar projects operating inside the Woreda. He said also that the Woreda will learn from both the strengths and weakness of the project while it goes scaling. Tateke commented that the less expansion of potato crop should not be reason out because of porcupine but it is because of awareness of the farmers which needs holistic action from different organizations. He suggested more works should be done on utilization (i.e. feeding trial) of tree lucerne and testing of more mechanization technologies in phase II of the project.

**Birhan Getachew** (Woreda women and youth office)

Birhan appreciated the achievements of the project even though she commented less number of women headed household’s beneficiaries form the total participant of the project. She promised that her office will work to scale the experiences women who use best technologies from the project to other women farmers in the Woreda.

**Andualem Lulseged** (Wodera union)

Andualem said that the union had already organized seed producers association and they have also seed expert to strengthen and contribute to the seed system. He reported that the union is working to make available pest controlling chemicals (Pesticides, insecticide, fungicides etc.) to farmers and other organization on the required time and places. The union had bring one tractor for testing and the trial of threshing machine was worked with ACDI-VOCA which was also successful. Andualem mentioned that currently the union is working on market linkage which use a commission-marketing system. He suggested that if animal feed cultivars/genotypes were identified and recommended to different environments it will be easy for the union to multiply and address the huge demand of farmers in the area.

**Mikre Gashaw** (Goshe Bado Kebele Administrator)

Mikre told participants that farmers at Goshe Bado Kebele have already started using Africa RISING tested technologies of bread wheat, food barley and potato from host farmers by using farmer to farmer seed exchange. He also commented on the issue of less expansion of potato versus farmers reason of porcupine that this the view of few farmers which don’t reflect the whole situation. Mikre reminded that there are farmers asking the seed of Shenkola and Gera potato varieties at his Kebele? Both the Kebele administrator and farmer representative from Gudo Beret advised Mikre that there is enough the seed of both Shenkola and Gera at Mush cooperative in which they can get it.

**Abebech Workneh** (Goshe Bado farmer representative)

Abebech said I will try to expand/scale the lessons and best practices learned to other women farmers on tree lucerne, crop residue utilization and feeding trough.

**Getachew Lakew** (Gudo Beret Kebele administrator)

He reminded that Dosha variety which was selected during PVS trial by Africa RISING at mush village of Gudo Beret Kebele starts to disseminate to other villages/sub Kebeles. He said that Mush cooperative is doing a good job on seed multiplication on potato, wheat, faba bean and barley crops.

**Desta W/Aregay** (Gudo Beret farmer representative)

Desta appreciated the effort of the project on introducing new varieties of different crops which will be an option for the farmer for different situation. She urged introduction of machine threshing technologies by giving the example of seed mixture during threshing (i.e. farmers in a village use the same threshing place which cause the mixture).

**Awgchew Teshome** (Head, North Shewa Zone office of Agriculture)

Awgchew said I have got the opportunity to learn from the report and farmers witness that Africa RISING was doing activities that contribute government goal to move out of poverty in short period of time. He also appreciated the works on PVS and faba bean gall disease management. He reminded participants that scaling of best practice/model activities to other farmers is the responsibility of Woreda office of agriculture and Woreda administration.

Awgchew was also very much impressed by mechanized seeding wheat. Awgchew also wish to see Africa RISING II in the near future and he urge testing of more mechanization technologies (Ploughing, Row planting and harvesting) which could help in modernization of Agriculture

**Closing**

Beyene Bitew center director of Debre Birhan Agricultural Research Center (DBARC) in his closing remark said that when a project come to an area its main target is the community and in this regard Africa RISING project was successful. He added the project was a good opportunity in complementing the works of office of agriculture, research and the Woreda at large.

Table 1. List of participants during the fourth IP meeting

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| S.N. | PARTICIPANTS NAME | ORGANIZATION |
| 1 | Beyene Bitew | Debre Birhan Agricultural Research Center |
| 2 | Abiro Tigabie | Debre Birhan Agricultural Research Center |
| 3 | Andualem Lulseged | Woreda Union |
| 4 | Jemal Mohamed | Woreda office of Agriculture |
| 5 | Birhan Getachew | Woreda women and youth office |
| 6 | Tegene Seifu | Woreda office of Agriculture |
| 7 | Melkamu Dagne | Gudo Beret Kebele office of agriculture |
| 8 | Awgchew Teshome | North Shewa zone office of agriculture |
| 9 | Shewangizaw Nigussie | Woreda office of Agriculture |
| 10 | Tatek G/Amanuel | Woreda administration office |
| 11 | Tadios Demsew | Woreda administration office |
| 12 | Etsegenet HaileMichael | Debre Birhan University |
| 13 | Sebsbie Sahlie | Goshe Bado Kebele office of agriculture |
| 14 | Shewangizaw Hailemichael | Woreda office of Agriculture |
| 15 | Abegaz Ayifokru | Goshe Bado Kebele farmers representative |
| 16 | Abebech Workneh | Goshe Bado Kebele farmers representative |
| 17 | Eshetie Teklemariam | Gudo Beret Kebele farmers representative |
| 18 | Desta Woldaregay | Gudo Beret Kebele farmers representative |
| 19 | Mikre Gashaw | Goshe Bado Kebele administration |
| 20 | Getachew Lakew | Gudo Beret Kebele administration |
| 21 | Shimelis Mengistu | ILRI/Africa RISING |
| 22 | Temesgen Alene | ILRI/Africa RISING |